

Amendment
Application No. 10/806,247
Attorney Docket No. 042261

REMARKS

Claims 1-13 are pending in the application. Claims 8-10 have been withdrawn. Claims 11-13 have been added. No claims have been amended. In light of the following remarks, applicants earnestly solicit favorable reconsideration.

On the Merits

The Office Action has maintained the rejections of claims 1, 2 and 4-6 under 35 U.S.C. § 102(b) as being anticipated by *Takeuchi* (US Patent 5,641,696). Dependent claims 3 and 7 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Takeuchi* in view of *Taka et al.* (US Patent 4,853,342).

Independent Claim 1

Independent claim 1 requires in part:

[T]he step of forming the first junction includes at least a first ion implantation which is carried out with a first acceleration energy and a first dose, and a second ion implantation which is carried out with a second acceleration energy higher than the first acceleration energy and a second dose lower than the first dose.

In applicant's response to the Examiner filed on November 6, 2006 the response indicated:

Takeuchi discloses a first ion-implantation is carried out at an acceleration energy **60KeV** and a dose $3 \times 10^{15}/cm^2$ (column 10, lines 13-19) and a second ion-implantation is carried out at an acceleration energy **30KeV** and a dose $5 \times 10^{14}/cm^2$ (column 10, lines 38-42). Emphasis added.

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Thus, *Takeuchi* discloses a second ion implantation at a lower energy and lower dose than the first ion implantation.

The Examiner responded by stating in the Advisory Action dated November 29, 2006:

since the second concentration/mass of the second ion implantation is lower than the first concentration/mass of the first ion implantation, *the second acceleration energy is then considered to be higher than the first acceleration energy because one skilled in the art would know that the acceleration energy is proportional to the concentration/mass, this means the smaller concentration/mass of the ion implantation the higher acceleration energy of ion implantation.* Emphasis added.

However, contrary to the Examiner's position, *Takeuchi* specifically discloses a *lower implantation energy in the second implantation* (30 KeV as opposed to 60 KeV) in column 10, lines 38-42. The Examiner's position that *Takeuchi* discloses a higher implantation energy therefore contradicts the reference. Applicants respectfully traverse the rejection of independent claim 1.

Dependent Claims 2-7 and 11-13:

As claims 2-7 and 11-13 each depend from independent claim 1, the arguments set forth above regarding claim 1 also apply to its dependent claims. As such, applicants respectfully traverse the rejection.

In view of the aforementioned amendments and accompanying remarks, Applicant submits that the claims, as herein amended, are in condition for allowance. Applicant requests such action at an early date.

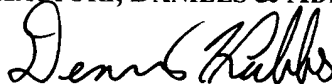
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If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned agent to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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